

## OMNIMATE Data - RJ45 jacks

### RJ45C5E S1U 0.9N4N RL

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
 D-32758 Detmold  
 Germany  
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[www.weidmueller.com](http://www.weidmueller.com)



The product range encompasses the following designs:

- 90°, lying (horizontal) and 180°, standing (vertical)
- latch up / latch down
- THT, THR or SMD soldering processes
- Wide range of different design types, also with integrated LEDs and shield contact tabs
- Performance category Cat. 3 to Cat. 6
- Packed either in a tray (TY) or on a roll (tape-on-reel, RL)
- Compatible with modular RJ45 connector according to ANSI / TIA-1096-A and IEC 60603
- Dielectric strength  $\geq 1500$  V AC RMS (2250 V AC peak value) according to IEEE 802.3
- Dielectric strength  $\geq 1500$  V AC (peak value) or  $\geq 1500$  V DC according to IEC 60603

Properties and advantages:

- Extended temperature range of  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  for maximum performance
- Reinforced gold layer ( $30\mu\text{m}$ ) for improved corrosion protection
- At least 3 mm stand-off ensures a perfect soldering result

#### General ordering data

|            |                                                                                                                                                                                             |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type       | RJ45C5E S1U 0.9N4N RL                                                                                                                                                                       |
| Order No.  | <a href="#">1455220000</a>                                                                                                                                                                  |
| Version    | PCB plug-in connector, RJ45 jacks, Cat. 5e, SMD solder connection, 90°, Latch option: top, Shield tabs: none, 30-80 $\mu\text{m}$ Ni / 30- $\mu\text{m}$ Au, LED: No, No. of poles: 8, Tape |
| GTIN (EAN) | 4050118261516                                                                                                                                                                               |
| Qty.       | 200 pc(s).                                                                                                                                                                                  |
| Packaging  | Tape                                                                                                                                                                                        |

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## Technical data

### Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Width                    | 16.41 mm   | Width (inches)  | 0.646 inch |
| Height                   | 15.19 mm   | Height (inches) | 0.598 inch |
| Height of lowest version | 13.41 mm   | Depth           | 16.6 mm    |
| Depth (inches)           | 0.654 inch | Net weight      | 0.009 g    |

### Temperatures

|                             |       |                             |        |
|-----------------------------|-------|-----------------------------|--------|
| Operating temperature, max. | 85 °C | Operating temperature, min. | -40 °C |
| Storage temperature, max.   | 85 °C | Storage temperature, min.   | -40 °C |

### Environmental Product Compliance

|            |                |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

### System specifications

|                       |                            |                                |                       |
|-----------------------|----------------------------|--------------------------------|-----------------------|
| Category              | Cat. 5e                    | LED                            | No                    |
| Latch option          | top                        | Mounting onto the PCB          | SMD solder connection |
| No. of poles          | 8                          | Number of solder pins per pole | 1                     |
| Outgoing elbow        | 90°                        | Pitch in inches (P)            | 0.05 inch             |
| Pitch in mm (P)       | 1.27 mm                    | Plugging cycles                | 750                   |
| Product family        | OMNIMATE Data - RJ45 jacks | Protection degree              | IP20                  |
| Shield surface        | nickel-plated              | Shield tabs                    | none                  |
| Shielding             | Yes                        | Shielding material             | Copper alloy          |
| Solder pin length (l) | 3.5 mm                     | Type of connection             | Socket connector      |
| Wiring                | 8-core                     |                                |                       |

### Electrical properties

|                                        |             |                     |          |
|----------------------------------------|-------------|---------------------|----------|
| Dielectric strength, contact / contact | ≥ 1000 V DC | Insulation strength | > 500 MΩ |
| Rated current                          | 1.5 A       | Rated voltage       | 125 V AC |

### Material data

|                                 |                         |                             |                  |
|---------------------------------|-------------------------|-----------------------------|------------------|
| Insulating material             | PA 9T                   | Colour                      | black            |
| Colour chart (similar)          | RAL 9011                | Insulating material group   | II               |
| CTI                             | ≥ 500                   | Insulation strength         | > 500 MΩ         |
| Moisture Level (MSL)            | 1                       | UL 94 flammability rating   | V-0              |
| Contact base material           | Phosphorus bronze       | Contact surface             | Gold over nickel |
| Layer structure of plug contact | 30-80 μ" Ni / 30- μ" Au | Storage temperature, min.   | -40 °C           |
| Storage temperature, max.       | 85 °C                   | Operating temperature, min. | -40 °C           |
| Operating temperature, max.     | 85 °C                   |                             |                  |

### Packing

|                          |        |                    |                                           |
|--------------------------|--------|--------------------|-------------------------------------------|
| Packaging                | Tape   | VPE length         | 45 mm                                     |
| VPE width                | 330 mm | VPE height         | 330 mm                                    |
| Tape reel diameter Ø (A) | 330 mm | Surface resistance | Rs = 10 <sup>9</sup> - 10 <sup>12</sup> Ω |

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**Technical data****Classifications**

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 6.0   | EC002637    | eClass 6.2 | 27-25-05-04 |
| eClass 7.1 | 27-25-05-04 | eClass 8.1 | 19-17-01-25 |
| eClass 9.0 | 27-44-04-02 | eClass 9.1 | 27-44-04-02 |

**Approvals**

Approvals



ROHS Conform

**Downloads**

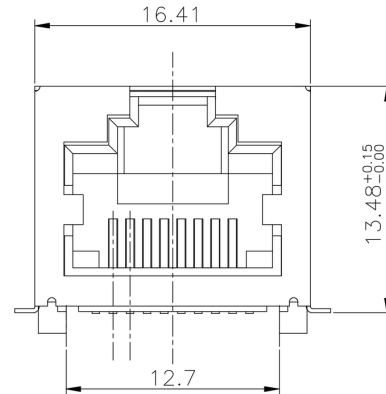
|                    |                                                                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brochure/Catalogue | <a href="#">CAT 9 IETH 15/16 EN</a><br><a href="#">MB FREECONTACT EN</a><br><a href="#">FL FIELDWIRING EN</a><br><a href="#">PI PROFINET CABLING EN</a> |
| User Documentation | <a href="#">MAN IE GUIDE DE</a><br><a href="#">MAN IE GUIDE EN</a>                                                                                      |

## OMNIMATE Data - RJ45 jacks RJ45C5E S1U 0.9N4N RL

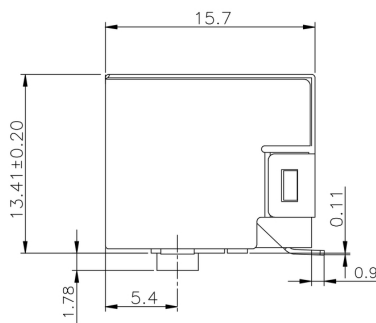
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# Drawings

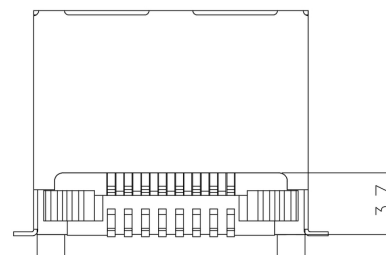
## Dimensioned drawing



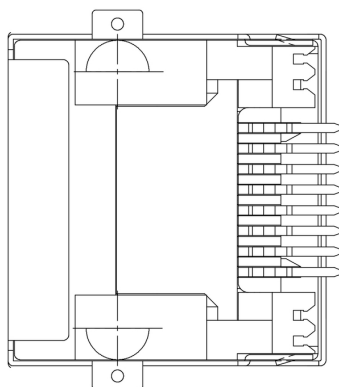
## Dimensioned drawing



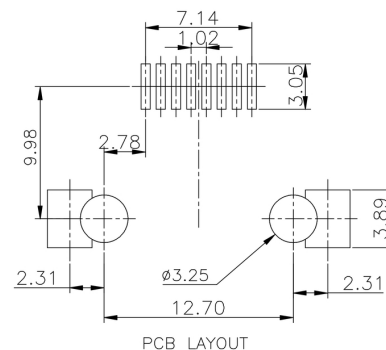
## Dimensioned drawing



## Dimensioned drawing



## PCB design

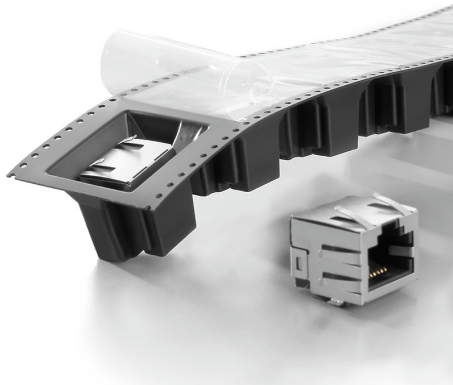


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## Drawings

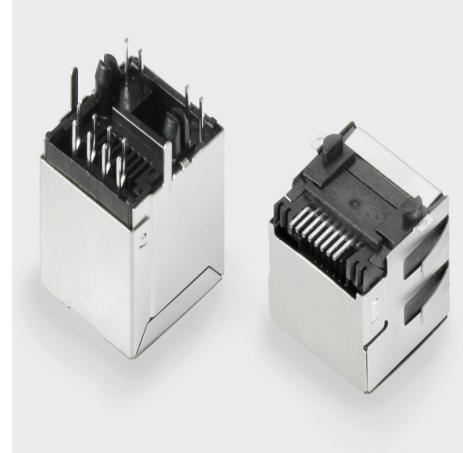
### Product benefits



Process-optimised packaging  
Tape-on-reel or tray

### Product benefits

### Product benefits



Trouble-free assembly  
Short, chamfered solder pins



Suitable for all soldering processes  
SMT, THT or THR

Creation date May 27, 2019 1:58:23 PM CEST

## Data sheet

### OMNIMATE Data - RJ45 jacks RJ45C5E S1U 0.9N4N RL

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## Drawings

## Legend

|      |    |   |   |   |     |   |   |       |    |                          |
|------|----|---|---|---|-----|---|---|-------|----|--------------------------|
| RJ45 | G1 | R | 1 | U | 3.2 | E | 4 | GY/GY | TY | RJ45G1 R1U 3.2E4GY/GY TY |
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## Recommended reflow soldering profile

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 16

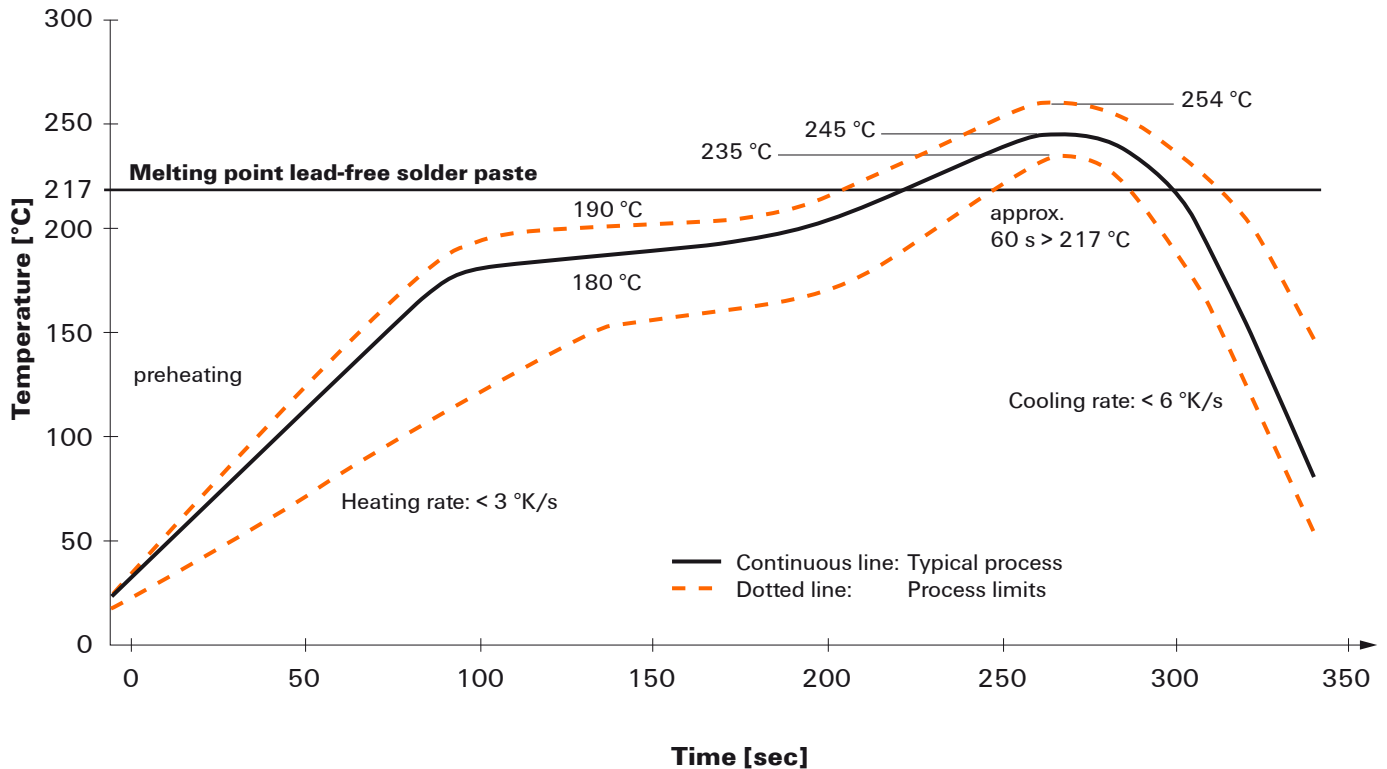
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## Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:

- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically  $\leq +3\text{K/s}$ . In parallel the solder paste is 'activated'. The time above melting point of 217°C the paste gets liquid and components and boards begin to connect. The maximum temperature of 245°C to 254°C should stay between 10 and 40 seconds. In the cooling phase at  $\geq -6\text{K/s}$  solder is cured. Board and components cool down while avoiding cold cracks.